PATENT COOPERATION TREATY

PCT

09/402563

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION**	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
2131-1 GLH		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/EP 98/ 03195	28/05/1998	11/02/1998
Applicant		
CURAME et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. [ ] **Certain claims were found unsearchable** (see Box I).

2. [ ] **Unity of invention is lacking** (see Box II).

3. [ ] The international application contains disclosure of a **nucleotide and/or amino acid sequence listing** and the international search was carried out on the basis of the sequence listing
   - [ ] filed with the international application.
   - [ ] furnished by the applicant separately from the international application,
     - [ ] but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.
   - [ ] Transcribed by this Authority

4. With regard to the **title,**
   - [X] the text is approved as submitted by the applicant
   - [ ] the text has been established by this Authority to read as follows:

5. With regard to the **abstract,**
   - [X] the text is approved as submitted by the applicant
   - [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this International Search Report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is:
   Figure No. 1
   - [ ] as suggested by the applicant.
   - [X] because the applicant failed to suggest a figure.
   - [ ] because this figure better characterizes the invention.
   - [ ] None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 98/03195

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G06F17/60 G06F19/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 583 758 A (KEES JULIE E ET AL) 10 December 1996 see abstract see column 2, line 50 - column 3, line 25 see column 12, line 1 - column 16, line 33; figures 14-18 ---	1,12
A	WO 94 00817 A (HEALTH RISK MANAGEMENT INC) 6 January 1994 see abstract; claims 1-5 ---	1,12
	-/--	

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
22 October 1998	04/11/1998

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Suendermann, R

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Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	GORDON C ET AL: "Telematics for clinical guidelines: a conceptual modelling approach" MEDICAL INFORMATICS EUROPE '97, MEDICAL INFORMATICS EUROPE '97, THESSALONIKI, GREECE, 1997, pages 314-318 vol.1, XP002081820 ISBN 90-5199-343-9, 1997, Amsterdam, Netherlands, IOS Press, Netherlands see page 315, line 24 - page 317, line 18 ---	1,8-10, 12
A	GORDON C: "Practice guidelines and healthcare telematics: towards an alliance" HEALTH TELEMATICS FOR CLINICAL GUIDELINES AND PROTOCOLS, HEALTH TELEMATICS FOR CLINICAL GUIDELINES AND PROTOCOLS, BRUSSELS, BELGIUM, APRIL 1994, pages 3-16, XP002081821 1995, Amsterdam, Netherlands, IOS Press, Netherlands see abstract see page 14, line 23 - page 15, line 2 ---	1,8-10, 12
A	QUAGLINI S ET AL: "Supporting tools for guideline development and dissemination" ARTIFICIAL INTELLIGENCE IN MEDICINE. 6TH CONFERENCE ON ARTIFICIAL INTELLIGENCE IN MEDICINE EUROPE, AIME '97. PROCEEDINGS, ARTIFICIAL INTELLIGENCE IN MEDICINE. 6TH CONFERENCE ON ARTIFICIAL INTELLIGENCE IN MEDICINE EUROPE, AIME '97, GRENOBLE, FRANCE, 2, pages 39-50, XP002081822 ISBN 3-540-62709-X, 1997, Berlin, Germany, Springer-Verlag, Germany see abstract see page 40, line 6 - page 41, line 12 see page 47, line 7 - page 48, line 4 ---	1,8-10, 12
A	HOWLETT D: "Come together groupware" NETWORK WORLD, APRIL 1997, EMAP COMPUTING, UK, vol. 1, no. 2, pages 26-28, 31, 33, 36, 39 - 40, XP002081823 ISSN 0968-6320 see page 31, column 2, line 19 - column 3, line 32 --- -/--	1,11,12

1

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	GALLAGHER S: "Exchange versus Notes Microsoft groupware" INFORMATIONWEEK, 4 MARCH 1996, CMP PUBLICATIONS, USA, no. 569, pages 66-68, 72 - 73, XP002081824 ISSN 8750-6874 see page 68, column 1, line 29 - page 73, column 2, line 37	1,11,12

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 98/03195

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5583758 A	10-12-1996	AU 673369 B	07-11-1996
		AU 4652293 A	24-01-1994
		AU 679889 B	10-07-1997
		AU 6550096 A	31-10-1996
		CA 2121245 A	06-01-1994
		EP 0600081 A	08-06-1994
		NZ 254452 A	26-04-1996
		WO 9400817 A	06-01-1994
WO 9400817 A	06-01-1994	AU 673369 B	07-11-1996
		AU 4652293 A	24-01-1994
		AU 679889 B	10-07-1997
		AU 6550096 A	31-10-1996
		CA 2121245 A	06-01-1994
		EP 0600081 A	08-06-1994
		NZ 254452 A	26-04-1996
		US 5583758 A	10-12-1996

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From the INTERNATIONAL BUREAU

To:

RECEIVED

27. 08. 1999

LEHERTE, Georges
K.O.B. N.V.
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B-8500 Kortrijk
BELGIQUE

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

Date of mailing (day/month/year)	
19 August 1999 (19.08.99)	
Applicant's or agent's file reference	**IMPORTANT NOTICE**
2131-1 GLH	

International application No.	International filing date (day/month/year)	Priority date (day/month/year)
PCT/EP98/03195	28 May 1998 (28.05.98)	11 February 1998 (11.02.98)

Applicant

CURAME et al

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:

   AU,EP,IL,JP,US

   In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

   CA

   The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on

   19 August 1999 (19.08.99) under No. WO 99/41686

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, **a demand for international preliminary examination** must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the **national phase**, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

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PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

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(51) International Patent Classification 6 : G06F 17/60, 19/00 — A1

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(74) Agent: LEHERTE, Georges; K.O.B. N.V., Kennedypark 31c, B–8500 Kortrijk (BE).

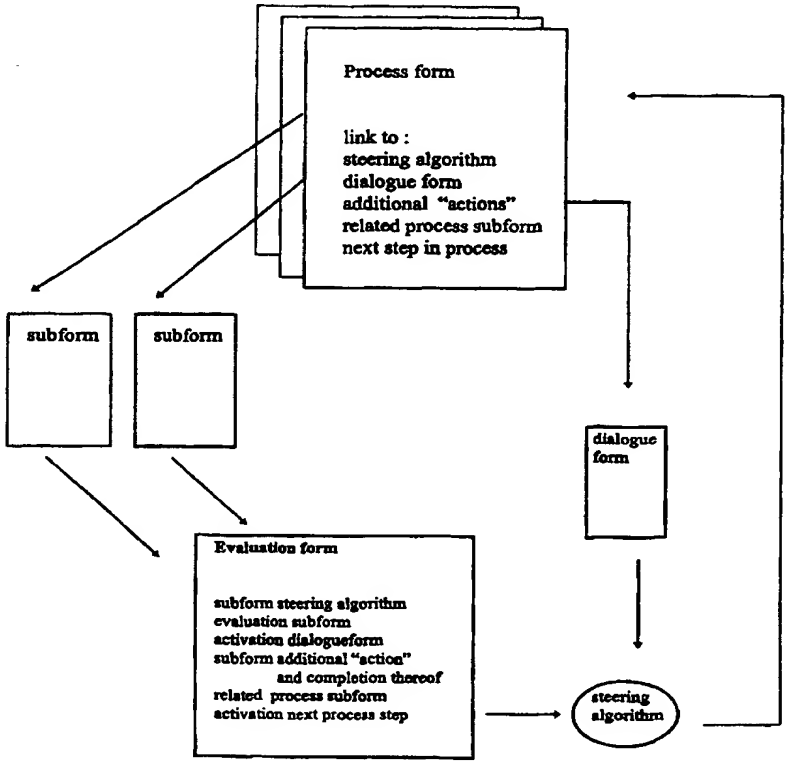
(81) Designated States: AU, CA, IL, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.

(54) Title: SYSTEM AND METHOD FOR STEERING INTERRELATED ACTIONS

(57) Abstract

The invention relates to a method for electronically storing, retrieving and/or modifying records and for sequentially steering a process of interrelated actions in respect of said records, using a computer system comprising a display unit, an input unit, a memory unit and a processing unit, and involving at least one recorded catalogue of recommended actions, in which method: the recorded catalogue(s) of recommended actions comprises/comprise hierarchised sequences of alternative actions, and which method generates electronic forms comprising a list of recommended actions, information–input requests and/or decision–requests, in function of the hierarchised sequences of alternative actions of the catalogue of recommended actions, and in function of the past history of actions. The invention also relates to a computer system programmed to operate such a system.



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SYSTEM and METHOD for STEERING INTERRELATED ACTIONS.

The invention relates to a method for electronically storing, retrieving and/or modifying records and for sequentially steering interrelated actions in respect of said records, using a computer system.

Methods for electronically storing, retrieving and/or modifying records for office management are generally known.
Reference is made for instance to the "LOTUS NOTES" software and "LOTUS DOMINO NOTES" software distributed by Lotus Development Corporation.
Such methods are often also adapted, or can be adapted in known ways, to be able to manage sequential actions in an overall procedure.

The known office management systems referred to above are, by design, easily adaptable for handling various **standardised** procedures (so called "applications" of the basic software), for instance by incorporating a catalogue of actions into the management system, but these known systems are not adapted for the needs of **individual** users who use a procedure record as a mere guideline for establishing working procedures suitable to variable individual situations.

The problem underlying the present invention is to satisfy the needs of the latter type of users of office management systems and to provide them a technical tool for the interactive implementation of interrelated action sequences.

Applicants of this patent have found a solution to this problem in the new method according to their invention, for electronically storing, retrieving and/or modifying records

and for sequentially steering a process of interrelated actions in respect of said records, using a computer system comprising a display unit, an input unit, a memory unit and a procesing unit, and involving at least one recorded catalogue of recommended actions, in which method the recorded catalogue(s) of recommended actions comprises/ comprise hierarchised sequences of alternative actions, and which method generates electronic forms comprising a list of recommended actions, information-input requests and/or decision-requests (so-called dialogue-forms/subforms), in function of the hierarchised sequences of alternative actions of the catalogue of recommended actions, and in function of the past history of actions.

In this way the recorded catalogue of recommended actions operates as a unavoidable but adaptable and flexible guideline for the user in the process he is following.

In a preferred embodiment of the invention, the recorded catalogue(s) of recommended actions comprises/comprise electronic selection algorithms in respect of the hierarchised sequences of alternative actions.

According to a further feature of this embodiment of the invention the selection algorithms in respect of the hierarchised sequences of alternative actions are integrated in the electronic forms which are generated by the method.

In another preferred embodiment of the invention, which may be combined with other preferred embodiments of the invention, the method is appropriately applied as a procedure of interrelated actions involving a number of sequential procedure steps, wherein for each subsequent step in the procedure the method generates at least one

process-form (which may be hidden, hideable and/or visualisable) and one visible evaluation form.

According to a further feature of this embodiment of the invention the evaluation form also comprises information from the records of the system relevant for any decision-request involved in said evaluation form.

According to the invention the method may furthermore very suitably involve that a record of all information used/entered when operating the method (i.e. all information contained / involved in all forms, actions, decisions, etc. used in applying the method) is stored in the memory unit of the system, for instance for the purpose of measurements of the effectivity and/or efficiency of effects and/or results of the procedure.
The expression "record" as used here refers to a capability of the method to store information in a retrievable way in the system.

In the method according to the invention the recorded catalogue(s) of recommended actions may very easily be up-dated, which in itself constitutes a distinctive feature of the invention.

In still another embodiment of the invention, which may also be combined with other preferred embodiments of the invention, the method may very appropriately involve a supervising organisation for the purpose of quality controll and quality improvement of the method.
Thus the supervising organisation may very appropriately evaluate the effectivity and/or efficiency of effects and/or results based on the records of information (forms, actions and decisions) used/entered, stored during use by several users of the method, in accordance with one of the

preferred embodiments of the invention, and up-date the recorded catalogue(s) of recommended actions in function of said evaluation.

The invention also provides a computer system for electronically storing, retrieving and/or modifying records and for sequentially steering interrelated actions in respect of said records, comprising a display unit, an input unit, a memory unit and a procesing unit, in which said memory unit of the computer system comprises a recorded catalogue of actions with a recommended procedure sequence of the actions, in which
said memory unit of the computer system comprises at least one recorded catalogue of recommended actions involving hierarchised sequences of alternative actions, and
said processing unit of the computer system is programmed to generate electronic forms comprising a list of recommended actions, information-input requests and/or decision-requests, in function of the hierarchised sequences of alternative actions of the catalogue of recommended actions, and in function of the past history of actions

In the computer system according to the invention the recorded catalogue(s) of recommended actions in the memory unit may very suitably comprise electronic selection algorithms in respect of the hierarchised sequences of alternative actions.

Preferably the processing unit of the computer system is programmed to integrate the selection algorithms in respect of the hierarchised sequences of alternative actions into the electronic forms.

According to a further feature of the computer system, its processing unit is preferrably programmed to generate one hidden or hideable process-form and one visible evaluation form for each step in the procedure of interrelated actions steered by computer system.

The processing unit of the computer system may also very suitably be programmed to integrate into the evaluation form any information from the records which is relevant for any decision-request involved in said evaluation form, and/or to store a record of the information (forms, actions and decisions) used/entered during the process, into the memory unit of the computer system.

The method according to the invention can very suitably serve as a tool for assisting a professional in implementing instructions in an interactive way. More in particular the method can (assist a professional to) implement a series of actions and/or tasks which have to be performed in a defined order, i.e. sequentially, in order to achieve a defined objective.
The method may for instance very suitably provide technical assistance for the (sequential) implementation of series of medical acts sometimes referred to as medical guidelines.

A fundamental feature of the method according to the invention lies in the fact that an hierarchy is assigned to the various steps or forms involved in the method.

Another fundamental feature lies in the fact that the recommended procedure sequence is integrated in the steps or forms used in the method.
According to the method a relation is established between the various types of forms, which relation has a certain

order.

The hierarchy makes it possible to transfer a group of forms, such as the forms pertaining to one specific client, in one operation into one file ("Lotus" uses the expression folder). This is achieved by the concept of main files and related files (files with assignements). When transfering a main form all related forms are transferred at the same time.

The users of the method can thus constitute files with any desired content and archive those in any desired way.

A main form can comprise one or more sub-forms. A subform comprises a portion of the form. A subform can be integrated in several forms.

This feature of the known office management systems is mainly used in administrative applications for those parts of the forms which are the same, for instance for letter-heads, adresses, personal data, etc.

In the method according to this invention this feature is applied to allow operating in sequential steps according to a so-called protocol-procedure or guideline-procedure, i.e. according to recommended procedure-sequences.

Guideline-procedures are nowadays considered as an ideal means for managing and controlling both quality and costs. This is particularly the case in medical and wel-fare activities.

In practice there are however no appropriate means to monitor or controll the actual use nor the correctness of guidelines and/or guideline procedures.

In the medical and wel-fare field it is thus for instance not known whether individual practitioners do indeed, in practice, have the guidelines at their dirposal, nor whether they actually use these and with what result.

The quality of recommended procedures depends on the competence and knowledge of those who are responsible for drafting these procedures. Competence and knowledge are, by definition, limited. Recommended procedures or guidelines are therefore no more than the condensation of the knowledge of certain experts at a certain moment.
This also involves that for optimal use recommended procedures should always allow proper individual initiative.

The method according to the invention allows the user to

- always take notice of the appropriate procedure or procedure step / guideline step, regardless of the overal number of procedures / procedure steps / guideline steps;
- apply or not apply a procedure / procedure step / guideline step;
- judge the eventual effect.

The method does therefore not involve a compulsory decision tree.
The method is a **tool** to assist the skilled professional in the optimal decision making based on the knowledge and information available at the moment of decision.
The method provides a means for acting in a conscious and testable way.

The technical concepts of the invention, as defined hereabove, can be embodied by application of known office management software, and in particular by means of "LOTUS NOTES" or "LOTUS DOMINO NOTES" software, distributed by Lotus Development Corporation, which contitutes a preferred embodiment of the invention.

The following table illustrates the capabilities offered

by the LOTUS NOTES software and the features of the invention specifically requiring these capabilities

Feature required by the invention	**Capability of LOTUS NOTES / LOTUS DOMINO NOTES**
hierarchy of forms	LOTUS NOTES folders
variable content of the process- or guideline-forms for each step in the procedure-sequence (guideline-step forms)	LOTUS NOTES subforms
steering via guidelines and guideline steps (for example medical guideline-form and medical evaluation form)	multiple forms having identical sub-forms
exchangeability of guideline steps	replication capability of LOTUS NOTES
exchangeability of process-results (for example results of medical treatments)	replication capability of LOTUS NOTES

The method according to the invention comprises the following original concepts :

Process-forms (Guideline-step forms) involve following features	**Evaluation forms involve following features**
links	subforms
subforms	links to dialogue-(sub)forms
next guideline step in default situation	
requests for additional tests necessary in current guideline step in default situation	the ability to copy information from guideline step forms

According to a specific embodiment of the method of this invention, these original concepts may be implemented by incorporating the following features in the process forms and evaluation forms.

Process form (guideline-step form)	**Evaluation form**
link to steering (selection) algorithm	steering algorithm subform
link to evaluation-subform and evaluation-subform itself	evaluation-subform
link to dialogue-form	possibility to activate dialogue-form
link to additional tests, subform additional tests and standard completion of additional tests	subform additional tests and completion of additional tests
(optional) link to related procedures (such as clinical trial subforms) and the corresponding guideline-step forms	(optional) related procedure subfoms
link to next guideline step in accordance with guideline (steered by algorithm)	possibility to activate next procedure step in accordance with guideline

The main features of the method of the invention, as applied in the embodiment set forth in the above table are further illustrated by **figure 1**, attached to this specification, which shematically represents the links between process forms (guideline-step forms) and evaluation forms via subforms, and the links with dialogue forms and with steering algorithms.

To implement these links the structure for composing the evaluation form is preferably contained in the guideline-step forms.

More specifically, the guideline-step forms contain indications about which subforms and dialogue forms are to be used for the evaluation form to be generated from said guideline-step form. This happens most suitably by specifying a name ("short designation") assigned to these subforms and dialogue forms.

The following table illustrates what and how this can be done for in particular the guideline-step form and the evaluation form :

	Guideline-step form	Evaluation form
Name of the guideline step	Name is specified	Name is computed by algorithm subform
Questionaire- or clinical subform (consultation form)	Name is specified. Subform is then visualised.	Name is retrieved from corresponding guideline-step form. Subform is then visualised.
Request-form for additioal tests	Name is specified. Subform is then visualised. Then default settings are specified.	Name is retrieved from corresponding guideline-step form. Subform is then visualised. Then all initial data are retrieved from corresponding guideline-step form.
Steering algorithm subform	Name is specified	Name is retrieved from corresponding guideline-step form. Subform is then incorported in eveluation subform. It contains one or more fields which are automatically calculated and which establish the next step based on the available information

Dialogue form	Name is specified	Name is retrieved from corresponding guideline-step form. It can be activated by eveluation form. Purpose is to recall additional information required to establish next step.
Link to next step by default	Name is specified	Name is retrieved from corresponding guideline-step form. Name can be used in algorithm to establish next step
Clinical trial subform (optional)	Name is specified Subform is then visualised.	Name is retrieved from corresponding guideline-step form. Subform is then visualised.

The preferred embodiment of the invention thus allows the creation of a file with unique properties (for instance a medical file) :

- integration of guideline steps in evaluation forms;
- modifying a guideline-form automatically involves modification of the evaluation form;
- easy management of large numbers of guidelines by (expert) superviser(s), such as a supervising "organisation" or authority, for instance a profession-group or association;

- easy distribution of guidelines;
- freedom to deviate from guidelines or guideline steps;
- insight (monitoring) concerning activities and qualitative / quantitative effects

The operation, in practice, of preferred embodiments of the method according to the invention, in particular in the medical area, is illustrated by the following example :

In order to operate the method, a coordinating body / centre / authority is required to establish the guidelines. This coordinating centre can for instance be a scientific association or a so called "integral cancer centre", but can also be an individual practitioner, such as a doctor, or partnership of professionals. In addition a managing and/or supervising organisation is required, responsible for distributing the guidelines for / into the method.

In practice there will be an exchange of guidelines and/or guidelines between the coordination and supervising centres, and the "workstations", i.e. the participating professionals.
This means also that the knowledge corresponding to a (super) expert becomes avaiable to all users of the method, in the form of measureable guideliness.

In the case of medical applications, the method according to the invention comprises (in analogy with conventional medical "files") :

1 - registration-forms, in which all relevant data of the patient can be mentionned;
2 - consultation-forms : i.e. guideline-steered forms (see item 5), in which the examination

results are indicated;

3 - request-forms for additional examination/tests;

4 - result-forms;

5 - dialogue screens (forms), on which the doctor can indicate his judgement (the resulting sum of his conclusions of the examination, the results of the additional examinations/tests and his knowledge), and on the basis of which, inter alia, the next guideline-step or procedure-step is selected;

6- guideline-forms : these forms define, for each consultation, the content of the consultation-forms : each time it will look different from a previous or next one; furthermore the guideline-forms stipulate which test-requests (laboratory-requests, requests for X-ray photographies, etc.) should be made in accordance with the standard guideline step, and , if applicable, when a next visit should take place. In fact the guideline or procedure will consist of a series of guideline-forms.

In practice things will proceed as follows :

1 - A patient comes to a consultation.

2 - The doctor or a secretary establishes a new "file" by filling in the registration form.

3 - By means of a dialogue-screen (form), in which a number of questions are asked, a first guideline-form is selected.

4 - The patient visits the doctors consultation.

5 - The content of the consultation-form is established based on the selected guideline-form. The requests for additional tests (for instance bloed- and urine tests, X-ray

photographs, etc.) are already, as a standard, filled in, based on the selected guideline-form. The doctor can always deviate from this proposed standard.

6 - The doctor decides additional tests : blood and X-ray photography, and completes the request form on the screen.

7 - After having received the results on the same day or later the doctor states his opinion in a dialogue-screen.

8 - The next procedure or guideline step is selected on the basis of this opinion.

9 - At the next consultation the guideline determines the content of the consultation form. This brings the process back to item 5.

Finally, what is essential, is whether the implementation of a guideline step or deviation from a guideline step leads to the intended effect. For this reason the method of the invention constitutes the basis for effectivity and efficiency measurements on the basis of which guidelines can be corrected and new guidelines can be develloped. This can be a task for a coördinating center and/or a scientific association.

By virtue of this evaluation property the method of the invention therefore constitutes a so-called "Quality System".

The association of the method according to the invention, as a tool, with the effect measurement it allows, gives indeed a very powerfull quality system, which - taking into consideration the freedom for deciding and acting of the individual user :

- can offer insight in the effects of evaluation

techniques and actions taken (in medical situatios of the recovery or improvement in function of the analyses and therapies);

- can offer insight in the efficiency (such as costs) of evaluation techniques and actions taken;
- can form the basis for correcting the evaluation techniques and actions to be taken.

C L A I M S

1. Method for electronically storing, retrieving and/or modifying records and for sequentially steering a process of interrelated actions in respect of said records, using a computer system comprising a display unit, an input unit, a memory unit and a procesing unit, and involving at least one recorded catalogue of recommended actions, **characterised in that** the recorded catalogue(s) of recommended actions comprises/comprise hierarchised sequences of alternative actions, and **in that** the method generates electronic forms comprising a list of recommended actions, information-input requests and/or decision-requests, in function of the hierarchised sequences of alternative actions of the catalogue of recommended actions, and in function of the past history of actions.

2. Method according to claim 1, **characterised in that** the recorded catalogue(s) of recommended actions comprises/comprise electronic selection algorithms in respect of the hierarchised sequences of alternative actions.

3. Method according to claim 2, **characterised in that** the selection algorithms in respect of the hierarchised sequences of alternative actions are integrated in electronic forms generated by the method.

4. Method according to any one of the preceeding claims, **characterised in that** the process of interrelated actions steered by the method involves a number of sequential procedure steps and **in that** for each

subsequent step in the procedure the method generates at least one process form and one evaluation form.

5. Method according to claim 4, **characterised in that** the evaluation form comprises information from the records relevant for any decision-request involved in said evaluation form.

6. Method according to any one of the preceeding claims, **characterised in that** a record of information used/entered is stored in the memory unit.

7. Method according to any one of the preceeding claims, **characterised in that** a record of the information and actions used/entered is stored in the memory unit for the purpose of measurement of the effectivity and/or efficiency of effects and/or results of the procedure.

8. Method according to any one of the preceeding claims, **characterised in that** the method involves a supervising organisation for the purpose of quality controll and quality improvement of the method.

9. Method according to any one of the preceeding claims, **characterised in that** the method allows for the up-dating of the recorded catalogue(s) of recommended actions.

10. Method according to claims 7 to 9, **characterised in that** said supervising organisation evaluates the effectivity and/or efficiency of effects and/or results based on said records of information and actions used/entered, stored during use of the method, and up-dates the recorded catalogue(s) of recommended actions in function of said evaluation.

11. Method according to any one of the preceding claims, **characterised in that** the steering software is an application embodiment of commercial LOTUS NOTES and/or LOTUS DOMINO NOTES software.

12. Computer system for electronically storing, retrieving and/or modifying records and for sequentially steering interrelated actions in respect of said records, comprising a display unit, an input unit, a memory unit and a procesing unit, **characterised in that** said memory unit of the computer system comprises at least one recorded catalogue of recommended actions involving hierarchised sequences of alternative actions, and **that** said processing unit of the computer system is programmed to generate electronic forms comprising a list of recommended actions, information-input requests and/or decision-requests, in function of the hierarchised sequences of alternative actions of the catalogue of recommended actions, and in function of the past history of actions

13. Computer system according to claim 12, **characterised in that** the recorded catalogue(s) of recommended actions in the memory unit of the computer system comprises/comprise electronic selection algorithms in respect of the hierarchised sequences of alternative actions.

14. Computer system according to any one of claim 13, **characterised in that** the processing unit of the computer system is programmed to integrate the selection algorithms in respect of the hierarchised sequences of alternative actions into electronic forms.

15. Computer system according to any one of claims 12 - 14, **characterised in that** the processing unit of the computer system is programmed to generate at least one process form and one evaluation form for each step in the process of interrelated actions steered by the computer system.

16. Computer system according to claim 15, **characterised in that** the processing unit of the computer system is programmed to integrate into the evaluation form any information from the records which is relevant for any decision-request involved in said evaluation form.

17. Computer system according to any one of claims 12 - 16, **characterised in that** the processing unit of the computer system is programmed to store a record of the information and actions used/entered during the process, into the memory unit of the computer system.

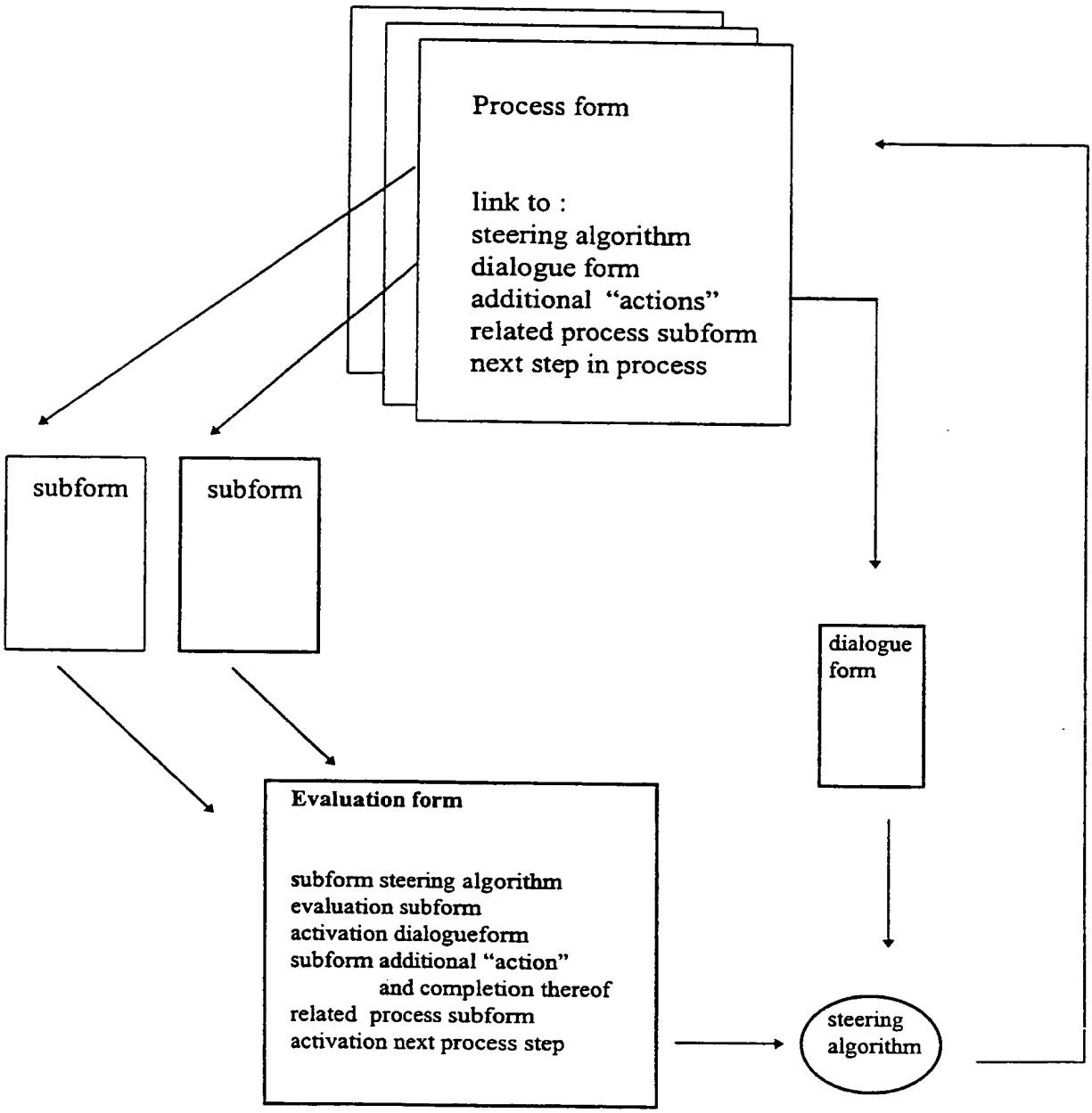
Process form
link to :
steering algorithm
dialogue form
additional "actions"
related process subform
next step in process
subform
subform
dialogue form
Evaluation form
subform steering algorithm
evaluation subform
activation dialogueform
subform additional "action"
and completion thereof
related process subform
activation next process step
steering algorithm

FIGURE 1

INTERNATIONAL SEARCH REPORT

Int[illegible] onal Application No
PCT/EP 98/03195

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G06F17/60 G06F19/00

According to International Patent Classification(IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 583 758 A (KEES JULIE E ET AL) 10 December 1996 see abstract see column 2, line 50 - column 3, line 25 see column 12, line 1 - column 16, line 33; figures 14-18 ---	1,12
A	WO 94 00817 A (HEALTH RISK MANAGEMENT INC) 6 January 1994 see abstract; claims 1-5 ---	1,12
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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
22 October 1998	04/11/1998

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Suendermann, R

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Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GORDON C ET AL: "Telematics for clinical guidelines: a conceptual modelling approach" MEDICAL INFORMATICS EUROPE '97, MEDICAL INFORMATICS EUROPE '97, THESSALONIKI, GREECE, 1997, pages 314-318 vol.1, XP002081820 ISBN 90-5199-343-9, 1997, Amsterdam, Netherlands, IOS Press, Netherlands see page 315, line 24 - page 317, line 18 ---	1,8-10, 12
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INTERNATIONAL SEARCH REPORT

Int ional Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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